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REMARKS

Withdrawal of the final rejection and favorable reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Claims 11-14 and 16-24 remain pending. All of the claims are rejected under 35 U.S.C. 103(a) as unpatentable over WO 97/00766 (Van der Loo *et al*, hereafter "Van der Loo") in view of JP 360151311 (Nanri *et al*, hereafter "Nanri").

Although the Examiner apparently agrees that it would not have been obvious to apply the disclosure of Nanri to Van der Loo for single layer or multiple layer ballistic materials, the arguments are not considered persuasive with respect to a compressed stack of single layers. The Examiner suggests that the low friction property of the fibers of Nanri "would not negatively effect the impact resistance properties of a moulded ballistic article comprising a compressed stack of single layers." This is explained further by the assumption that "since the ballistic article in question comprises a moulded compressed stack of layers, any frictional properties would inherently be lost upon compression. Thus, having low or high frictional polyethylene fibers would not materially affect the final product structure since all layers are compressed to form a moulded article. The burden is shifted to Applicant to evidence otherwise." (All emphases in original.)

It is respectfully submitted that the rejection is improper and should be withdrawn.

While it is stated that the burden to prove otherwise is shifted to Applicant, it is respectfully submitted that no objective evidence has been set forth which supports the assertions set forth in the rejection. It is not explained why compression would inherently result in loss of any frictional properties.

In particular, the rejection appears to assume that the adhesion behavior between layers would be improved by the compression of a stack of individual layers. However, it is not explained why, and no evidence of record suggests, that the adhesion behavior between layers is improved by compression of a stack of solvent containing fiber layers.

It is respectfully submitted that, to the extent that any conclusions may be drawn, the evidence of record, which includes the disclosure of Nanri, suggests just the opposite, namely,

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that for the fibers described by the Nanri disclosure, the application of compression would not eliminate the frictional properties of the fibers and that it would not have been *prima facie* obvious to use the Nanri fibers in ballistic materials, such as those of Van der Loo.

As an initial consideration, it is noted that, whether or not compression affects the low coefficient of friction of the Nanri polyethylene fibers, there is simply no evidence that the liquid paraffin contributes to the tensile strength or modulus of elasticity. Therefore, given the uncontested evidence that a low coefficient of friction is detrimental to ballistic properties, the practitioner would not have, under any circumstances, been motivated to incorporate the liquid paraffin laden fibers of Nanri in fabricating a ballistic resistance shaped article as contemplated by Van der Loo. The practitioner simply would not have expected the liquid paraffin-containing fibers of Nanri to contribute to additional benefits in tensile strength and modulus of elasticity or, to improvement in the SEA value. Therefore, in view of the known detrimental affects of low coefficient of friction, the practitioner would not have even bothered to try to determine the effect of compression on the coefficient of friction.

In any event, it is respectfully submitted that there is no basis for the conclusion that the compression of a stack of fiber layers in the shaped articles of Van der Loo, would have, if applied to the fibers of Nanri, overcome the difficulty of a low coefficient of friction with regard to the effect on ballistic properties.

First, the fibers of Nanri are striated, *i.e.*, have multi-striate grooves. Accordingly, it is respectfully submitted that the practitioner would expect that the lubricant liquid paraffin wax would be trapped within the grooves upon compression.

Second, the amount of the liquid paraffin is quite low, namely, from 0.05 to 1.0 wt.%. Considering these low amounts of liquid paraffin, it would be expected that compression would not eliminate or "squeeze-out" the liquid paraffin nor affect the reduction of the coefficient of friction attributed to the presence of the liquid paraffin.

Third, as clearly described by Nanri, the multi-striate grooved construction is itself considered to contribute to the low coefficient of friction (see, *e.g.*, page 5, second full paragraph, of the English translation of Nanri).

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Accordingly, whether for single layers or compressed stacks of multiple layers, the practitioner of ordinary skill in the art would not have been motivated by the disclosure of Nanri to modify the shaped articles of van der Loo by using the Nanri polyethylene fibers. Rather, the practitioner skilled in the art relating to ballistic-resistant molded or shaped articles as disclosed by Van der Loo and informed of the negative impact of low coefficient of friction on ballistic properties, would not have had a reasonable expectation of success in using the paraffin-containing polyethylene fibers, such as are disclosed by Nanri, as an alternative to the polyethylene fibers used by Van der Loo.

Accordingly, it is respectfully submitted that the Patent and Trademark Office has not presented evidence which would create a *prima facie* case of obviousness of the embodiments of Applicant's invention as defined by claims 11-14 and 16-24. Rather, the evidence regarding the negative impact of low coefficient of friction on ballistic resistant shaped articles coupled with the disclosure of the low coefficient of friction of the Nanri polyethylene fibers and the absence of evidence to support an assertion that the low coefficient of friction is inherently lost upon compression of a stack of layers, all lead to a conclusion that Applicant is entitled to obtain a patent for the subject matter being claimed.

Therefore, withdrawal of the rejection and passage of the application to issue is earnestly solicited.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

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Please charge any fees associated with the submission of this paper to Deposit Account Number 503-121. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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